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The Public Health Journal

VOL. XVII.

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Medical Aspect of Immigration*

By DR. D. A. CLARK,

Asst. Deputy Minister, Dept. of Health, Ottawa.

THE medical inspection of immigrants is one of the principal activities of the Federal Department of Health. When at the time of its inception the Department took over this work, hitherto carried on by the Department of Immigration, the medical inspection was conducted exclusively at the Canadian ports of arrival. In the nature of the case, the inspection has to be carried out expeditiously, and is necessarily a more or less cursory one. When accommodation on board is satisfactory, immigrants travelling cabin-class are inspected by the medical officer before they leave the vessel. Third-class passengers are disembarked into the Immigration building and present themselves in single file before the medical examiner before being passed on to the civil inspectors. Those who are obviously defective, or whose appearance raises doubt as to their mental or physical fitness, are detained for secondary examination. Section 3 of the Immigration Act includes the following in the "prohibited classes":—

(a) Idiots, imbeciles, feeble-minded persons, epileptics, insane persons and persons who have been insane at any time previously.

(b) Persons afflicted with tuberculosis in any form or with any loathsome disease, or with a disease which is contagious or infectious, or which may become dangerous to the public health.

(c) Immigrants who are dumb, blind, or otherwise physically defective, unless, in the opinion of a Board of Inquiry or officer acting as such, they have sufficient money, or have such profession, occupation, trade, employment or other legitimate mode of earning a living that they are not liable to become a public charge, or unless they belong to a family accompanying them or already in Canada, and which gives

*Read before Canadian Health Congress, Toronto, May 6th, 1926.

security satisfactory to the Minister against such immigrants becoming a public charge:

(k) Persons of constitutional psychopathic inferiority.

(l) Persons with chronic alcoholism.

(m) Persons not included within any of the foregoing prohibited classes, who upon examination by a medical officer are certified as being mentally or physically defective to such a degree as to affect their ability to earn a living.

Persons coming within any of these categories are so certified by the medical inspector. Decision, however, as to whether or not such persons shall be refused permission to land in Canada rests, under the Immigration Act, with the Department of Immigration, the Department of Health merely acting in an advisory capacity. Cases coming within categories (a) or (b) are usually rejected forthwith. Those coming within category (k) may be admitted on a six or twelve months' permit, subject to re-examination at the end of that time. Physically defective persons coming under categories (c) or (m) may be admitted, notwithstanding their disabilities, provided they fulfil the requirements set out in this sub-section of the Act.

To be refused permission to land may be a serious matter to the person concerned, frequently involving suffering and hardship. Such person may have sold his home or given up employment in his native land, and his re-establishment on return may be difficult. In order to minimize this possibility as much as possible, and as a primary line of defence in the elimination of the physically and mentally unfit, the policy has been adopted in recent years of recommending prospective immigrants who have any doubt as to their physical or mental condition to present themselves for examination to a medical practitioner—in their home district—before taking active steps toward emigrating to Canada.

The examining physician must be selected from an official roster comprising some 2,000 doctors resident throughout Great Britain, Ireland, and at European ports, who have Departmental authority to issue such medical certificates. This official roster is now in general use by the Overseas Settlement Branch of the British Government, and by the Immigration Services of the respective Dominions. The cost of the medical examination is borne by the prospective emigrant, based on a reasonable scale of fees. In the case of unaccompanied women, children's immigration schemes, and Government-assisted passages to Canada, this medical examination is compulsory.

As a check upon the roster doctors, the certificates issued by them

are submitted by the Immigration Department in London to Canadian medical officers of the Department of Health, two of whom have been appointed in recent years. Where the diagnosis appears doubtful, or is incomplete, a further medical report is requested; and in some instances it becomes necessary for the prospective immigrant to be re-examined by the Departmental medical officer, whose advice is subsequently passed on to the Immigration Department. Thus a second line of elimination is built up.

The results of this system have been: (a) a steadily improving class of immigrants to Canada, and (b) a minimum number of persons rejected on mental or physical grounds after arrival at the Canadian port.

Some idea of the Federal Health Department's activities overseas may be gathered by noting that during the fiscal year 1924-25, (the figures for 1925-26 are not yet available), some 26,000 medical certificates issued by roster doctors were reviewed by the Department's medical staff in London. Of these, 1,684 persons were required to be personally medically examined; and of the total of 26,000, some 2,154 were found physically or mentally defective under the Immigration Act, and were discouraged from attempting to come forward to Canada.

The total immigration to Canada via Atlantic ports during the same period, 1924-25, was 92,095, of which some 870 persons were medically certified as prohibited after arrival in Canada. *Thus it will be seen that of the 27% who presented themselves for medical examination prior to sailing, two and one-half times more were eliminated than were eliminated from the remaining 73% on their arrival on this side.*

The Department of Health has recently prepared and published a small book of Instructions to Medical Officers. This is not only being made good use of by the Officers of the Immigration Medical Service, but has been distributed to ships' medical officers and to the complete list of roster doctors overseas. Thus a uniform and efficient medical inspection of immigrants to Canada, in accordance with the requirements of the Immigration Act, is assured.

What of the future? As already intimated, medical examination of intending emigrants to Canada prior to embarkation is at the present time compulsory only in the case of unaccompanied women, children's schemes, and those who are seeking Government-assisted passages. It has been the steadily growing conviction of the Officers of both the Department of Immigration and the Department of Health that, while admission to Canada should be determined finally at the Canadian ports of arrival, a maximum degree of weeding-out of the physically and

mentally unfit could be done only overseas by requiring every intending emigrant to this country either to furnish a medical certificate from a roster doctor, which would be reviewed by Canadian Medical Officers stationed overseas, or to require each such emigrant to be actually examined by a Canadian medical officer and found fit before approaching the Immigration authorities or the Ship's authorities in reference to his or her coming to Canada. This would reduce to a comparative minimum the possibility of rejection on this side. A similar plan is already in force by the United States Immigration authorities as regards immigrants to that country. While final decision regarding admission is determined at the American port of landing, no person is now permitted to emigrate to the United States from a British port or from certain European ports until he or she has been examined and passed by a medical officer of the United States Public Health Service now stationed in the overseas country.

A medical examination, as nearly final as possible, in the old land, has the active sympathy of both the Department of Immigration and the Department of Health, since it is felt that by this means the best class of immigrants can be secured with the least amount of hardship and discomfort to the emigrating people. The extent of this medical examination overseas is merely a matter of finance.

Every Government which has held office at Ottawa during the last quarter of a century has emphasized the need of more immigration to Canada. So long as there is an abundance of employment offering in the unskilled or domestic labour market, the inflow of immigrants works greatly to Canada's advantage. Unfortunately, however, as we are all aware, there is no such thing as a uniformly stable employment demand either in this or any other country; that the need for labour fluctuates according to economic conditions. When during temporary periods of commercial depression the demand for labour is relatively low, the men and women who are best equipped mentally and physically naturally get the preference; those who, due to mental inability or poor physique, are least aggressive, are the first to go to the wall. Faced with impending poverty, these latter leave the sparsely-populated areas and crowd into the cities and towns, there to swell the ranks of the unemployed. Here, economic pressure forces them to live in insanitary quarters and partake of food which is not of the most sustaining quality. They soon drift into vagrancy; disease is apt to attack them; in a short time they become public charges upon the municipality or province, and are reported to the Department of Immigration as undesirables, with the request that they be returned to their native land. Thus the country

has upon its hands the perennial problem of deportation, after admission, of men and women, the majority of whom, had the demand for general labour remained at one hundred per cent., would doubtless have "made good" in Canada.

A vital question which, it seems to me, merits the sympathetic consideration of both the provincial and municipal authorities throughout the country relates to the attitude which should be adopted in the case of families who have emigrated to this country comprising, say, a father, mother, and four or five children, all of a splendid type and constituting first-class material out of which to weld worth-while Canadian citizens, but who may have one child below the normal standard of intelligence and possibly certifiable as prohibitive of entry under the Immigration Act, but whose condition is due to traumatic causes at birth or arrested development from infantile disease and from which is excluded the hereditary factor. Should this condition in the one member constitute justifiable grounds for the rejection of the whole family, or, rather, should not the province or municipality, having regard to the potential value of such a family in Canada, be willing to accept, along with the recognized assets, this defective child, thereby assuming the risk of his or her becoming a possible burden upon the community? Can we have all good without some dross?

While undoubtedly the future growth of Canada is dependent in large measure upon a steady and continuous flow of immigrants from the old world, the Canadian climate and the arduous character of the work requiring to be performed, demand men, women, and children of a healthy and virile type. Those left on their own resources who are physically or mentally below par, cannot long stand the strain of life in a new country, and sooner or later become public charges. There can be no doubt that the majority of immigrants this country is now receiving is of a highly desirable type. Anyone who remembers the poor specimens that up until a few years ago crowded to our shores, and who has also witnessed a characteristic disembarkation at the port of Quebec in recent years, cannot fail to be impressed with the marked improvement in their quality. Unquestionably, this improvement is due in large measure to the increasingly efficient manner in which the medical requirements of the Immigration Act are being applied.

Carbon Monoxide Poisoning*

I. H. ERB, M.B.,

Pathologist, Hospital for Sick Children, Toronto.

THE circumstances which led up to the choosing of this subject may be of some interest. When first asked to contribute something toward the programme for this occasion, I replied signifying my willingness to assist, but at the same time had not chosen any particular subject. Within half an hour, however, of the time of mailing my reply, I was called out to make a post-mortem examination upon the body of a man, a truck driver, who had been found dead in his garage, and who was supposed to have died as the result of a heart attack. The examination, however, revealed a healthy condition, not only of the heart, but of the other organs as well, and showed death to have been due to carbon monoxide poisoning. Inasmuch as there was no source of carbon monoxide in the garage other than the exhaust from the engine of the truck, it was reasonable to assume that death in this case could be attributed to the inhalation of the fumes from the exhaust of the engine, although the motor was no longer running when the body was found. As this made the 6th case of accidental death, due to this deadly gas, in a period of only 5 months, in which I was called upon to make the post-mortem examination, it occurred to me that this type of accident is of much more frequent occurrence than the average individual realizes, and, therefore, this would form a subject well worthy of consideration before such an organization as the Canadian Public Health Association.

Following only 3 days after the death of the truck driver just referred to, there appeared in the press the report of the untimely death of Dr. W. W. Hudson, of the Du Pont Chemical Works. During the latter years of the war, Dr. Hudson had a great deal to do with poisonous gases. He was recognized as an authority upon the subject, probably greater than any other man in the United States. His knowledge of the dangers of these gases, of the prevention of these dangers, and of methods to counteract their ill effects was most extensive, and yet, in spite of his vast knowledge of these deadly weapons of war, Dr. Hudson

*Read before the Laboratory Workers' Section of the 15th Annual Meeting of the Canadian Public Health Association, Toronto, May 5th, 1926.

was found, in a time of peace, dead in his own garage, a victim of carbon monoxide poisoning from the exhaust of his own automobile.

Dr. Hudson's death under these circumstances was nothing short of a tragedy, and tragedies such as this, with the increasing use of the automobile, are becoming altogether too frequent. Especially is this so since this particular type of accident could so easily be avoided and also because these unfortunate individuals are nearly always victims of their own lack of forethought or carelessness. It would seem that this is but another example of the old adage, "Familiarity breeds contempt". Either people do not realize the dangers that lurk in automobile exhaust, or else, because of their constant association with the automobile, they greatly minimize these dangers. Then, too, we must bear in mind that usually it is the healthy individual in the prime of life, and the breadwinner of the family, who is the victim in these cases.

It is not the purpose of this paper to enter into a discussion of the technical problems in connection with this subject, desirable as that might be from a laboratory worker's point of view; neither do we intend to attempt the presentation of anything new in the matter of the mode of action of this poisonous gas, or the treatment of its ill effects, but rather to draw attention to certain recognized facts, a more general knowledge of which on the part of the public should, we believe, tend towards the reduction in the number of fatalities from this cause.

The cases coming under my immediate observation during this short period of time may be briefly dealt with as follows:—

Case 1. That of a woman found dead in bed with illuminating gas escaping from an open jet in the middle of her bedroom.

Cases 2 and 3 may be considered together. In this instance a man and a woman were both found dead in bed with gas escaping from the kitchen stove, the tap of which was open.

Case 4. That of a young man, a student, who was found dead in a bathroom. In the bathroom was a water boiler heated by gas, but without any pipe or vent connecting it to the chimney, by which the fumes could be carried off.

Case 5. That of a maid who was found dead in bed, having inhaled coal gas from the furnace. Investigation showed that the maid's quarters, which were on the third floor, were directly above the furnace room, with which they were connected by a stairway. The furnace, which had been in use for a number of years, had been lit only the morning before, after having been unused all summer. During the day, no odor of gas was detected, but the

following morning, when the maid was found dead, her room was full of coal gas, and the window was tightly closed.

Case 6. That of the truck driver, mentioned above, who was found dead in his garage.

To these 6 cases may be added a seventh, which occurred only yesterday morning. This was that of a woman who was found in the bathroom in a dying condition shortly after midnight, and expired a few moments later. In the bathroom was a strong odor of coal gas which was coming from the furnace. The fire had been out all of the previous day and had been relit in the evening. It appeared that the fire had been checked before the gas had had time to escape.

FREQUENCY OF GAS POISONING:

While the actual number of deaths attributable to carbon monoxide poisoning is difficult to obtain, some idea of the extent of its ravages may be gathered from the statement issued by the Metropolitan Life Insurance Company (1). According to this report, during the year 1924 among their fifteen and a half million policy-holders, there were 588 deaths from this cause. Of these, 365 were accidental deaths and 223 were suicide deaths. In the State of Ohio, during the two winters of 1922-23 and 1923-24, there were 128 deaths (2), while in the Province of Ontario during the year 1924, there were no less than 45 deaths attributable to poisoning with carbon monoxide. Last year in the City of Toronto alone, the accidental deaths from this cause numbered 19.

SOURCES OF CARBON MONOXIDE:

The chief source of this poison is found in illuminating gas, which, according to the Metropolitan Life Insurance Company, is responsible for over 90% of the deaths. In Ohio, however, a State in which natural gas is largely used for heating purposes, gas-fired room-heaters are responsible for almost 66% of deaths, while automobile exhaust gas comes second with about 10% of deaths (2). Other sources include gas-fired water-boilers, cooking-stoves, and coal gas from stoves and furnaces, fumes from burning charcoal, smouldering wood and lime kilns. In the series here reported at least four of the above possibilities are represented, viz.: illuminating gas escaping from a gas jet in 1 case, illuminating gas escaping from a cook-stove in 2 cases, fumes from a water-boiler not fitted with a proper vent, 1 case, coal gas from a furnace 2 cases, and automobile exhaust, 1 case.

Another illustrative case may be cited. This case did not come under my observation, but was reported to me by Dr. George Graham,

Chief Coroner for the City of Toronto. It was that of a family consisting of husband, wife and two daughters. On the morning of the fatal day, after the husband had gone to work and the girls had left for school, the mother went down to the basement to do the washing. Here she lit the gas under a water-boiler, which again had no flue connecting it to the outside air. When the father returned home at noon he found the lifeless body of his wife on the cellar floor. He also was overcome by the fumes, and, when the girls came in for lunch, the father was found unconscious. He was immediately removed to the open air, where he recovered. The mother, however, had been exposed to the gas for too long a period to make recovery possible.

The dangerous element in all these gases or fumes from whatever source they come is carbon monoxide, which is present in varying proportions in the different gases. It varies from 1 to 17% in the gas from coal stoves, furnaces and gas burners, while in illuminating gas it may reach as high as 30% to 35% (3). In the exhaust from automobiles, according to Yandell Henderson, it constitutes about 7% (4). In the case of gas-fired water-boilers it might be said it is not the carbon monoxide in the gas itself, but in the products of incomplete combustion of the heating gas, which is responsible for the production of the asphyxia.

PROPERTIES OF CARBON MONOXIDE:

Carbon monoxide is a colorless, tasteless, practically odorless gas, and is without any irritant action on the mucosa of the respiratory tract. Because of these properties, it is impossible to detect it by any of the five senses. It is, therefore, a most treacherous gas, since it can be present in dangerous quantities without giving any warning whatever. In illuminating gas there is a certain factor of safety in the odor of hydrocarbons which accompany the carbon monoxide, but in spite of this odor, many accidental poisonings do occur, as the odor may not be perceived by persons in a deep sleep or with a defective sense of smell.

METHOD OF ACTION:

The method of action of carbon monoxide, whatever be its source, is quite definitely established. It has long been known that it possesses a peculiar affinity for the coloring matter in the blood, hemoglobin. This affinity for hemoglobin is about 300 times greater than that of oxygen for hemoglobin, and since the function of the hemoglobin is to carry oxygen from the lungs to the tissues, one can readily understand that in the presence of carbon monoxide in the air, the oxygen carrying

capacity of hemoglobin will be seriously interfered with. Not only is the affinity of carbon monoxide for hemoglobin many times greater than that of oxygen for hemoglobin, but the compound which it makes, viz, carbon monoxide hemoglobin, possesses a much greater stability than does oxyhemoglobin. It is this property of the gas which is responsible for the displacement of the oxygen in the blood with the production of a sort of internal asphyxia, and because of the lack of oxygen, the nutrition of all the tissues is impaired. The tissues to suffer first, and to the greatest degree, are those which require the most oxygen, viz: the central and peripheral nervous system and the heart. This explains why it is that in the severe but not immediately fatal cases one frequently finds areas of softening in the brain. This softening is due not to any injurious action of the carbon monoxide as such, but rather to the impoverished condition of the blood.

SYMPTOMS:

Without going into this part of the subject in detail we wish to state that the *symptoms* of carbon monoxide poisoning vary greatly, depending upon whether the poisoning is acute or chronic. In the acute cases there may be no symptoms other than drowsiness, the patient falling asleep never to waken. At other times there may be a throbbing in the head, a "caving in" of the knees, a blurring of the vision; the patient falling to the ground before he is able to escape to a place of safety.

In the chronic cases there is a wide variation of symptoms. The patient may complain of headache, dizziness, nausea or vomiting, common symptoms among garage workers. In addition there may be general weakness, numbness and tingling of the hands and feet. These symptoms, which are most marked after exposure for some hours to small amounts of the gas, may disappear after the patient has passed some time in the fresh air, but will return again during further exposure to the gas. In houses heated by gas many women complain of headache, lassitude, dizziness and nausea, all due to monoxide.

POST-MORTEM APPEARANCES:

The surface of the body presents a rosy hue, and there are frequently spotted markings of a bright red color upon the anterior and inner surfaces of the thighs, and on the anterior surface of the trunk and neck. The most characteristic finding is the bright, cherry-red color of the blood, which is fluid. This gives to the muscles, lungs and other organs also a bright red color. Frequently there is considerable oedema

and congestion of the lungs and brain. This was present in all my cases. In cases in which the poisoning has been prolonged there are frequently areas of softening in the brain, particularly in the lenticular nuclei. These lesions are probably due to the impoverished conditions of the blood.

TESTS:

Various tests have been devised for the qualitative and quantitative determination of carbon monoxide in the blood, the most common perhaps of which are the sodium hydroxide and tannic acid tests. These tests were strongly positive in all my cases. The technique will be found in any standard text book on organic chemistry.

PRECAUTIONS:

Precautionary measures to be adopted with a view to avoiding poisoning from carbon monoxide may be grouped under three main headings, depending upon the source of the poison.

1. *Concerning Furnace and Coal Gas.*

Before lighting the furnace in the Fall, particular attention should be paid to the furnace pipes, as these frequently rust through during the Summer months. The same applies, although perhaps to a lesser degree, to stove pipes. After putting on fresh coal one should see that the damper is not closed too far.

2. *Concerning Gas for lighting or heating purposes.*

(1) Avoid the use of rubber tubing, and if flexible tubing of any kind is used, examine it at frequent intervals to make sure there are no leaks. Many deaths result each year from leaky rubber tubing.

(2) Have all gas burning devices, such as gas cook stoves, heaters and water-boilers, connected to the chimney flue. This allows for the products of combustion to escape to the outside air.

(3) Particularly should gas heaters never be placed in a bathroom, unless there is a good connection with the flue, the reason for this being that the room is small, and the doors and windows are shut when the room is occupied, so that a comparatively short time is required for the atmosphere in the room to become heavily laden with carbon monoxide.

(4) Do not leave the gas turned on too low. The pressure may fall, and the light go out. A return of pressure may flood the room with gas.

(5) Avoid sleeping in a room with a gas heater or other gas-light burning.

3. *Concerning automobile exhaust.*

In trying to think of some method by which the dangers that exist in automobile exhaust might be brought to the attention of the public, it occurred to us that one method might be to supply to each automobile owner, together with his license numbers, some literature on this subject. This could be accomplished, we believe, by the Department of Health for each Province co-operating with the Department of Highways when the time comes to issue new licences. As a matter of fact, the Minister of Health for the Province of Ontario, Hon. Dr. Forbes Godfrey, has already signified his willingness to assist in this matter.

The suggestion I have to offer is this, that the Department of Health issue a card, say, twice the size of a licence plate and scored through the middle so that it could be folded. On this card could be printed in black and red some such wording as the following:—

DANGER.

Don't Flirt With Death by Running Your Engine in a Closed Garage.

The average automobile, while "warming up," discharges from its exhaust about 1 CUBIC FOOT OF DEADLY CARBON MONOXIDE PER MINUTE. In an average sized garage of 10' X 10' X 20' it requires less than 2 minutes to produce sufficient carbon monoxide to reach a concentration injurious to health. In 5 minutes the atmosphere will contain sufficient to produce asphyxia, and in a very few minutes more the concentration will reach a fatal amount.

THEREFORE, keep garage doors and windows OPEN while the engine is running.

FIRST AID TREATMENT. Persons overcome by gas should be removed at once to the fresh air, and, if breathing has stopped, should be given artificial respiration.

TACK THIS UP IN YOUR GARAGE.

One such card could then be enclosed with each pair of licence plates, with the hope that at least some individual may heed the warning.

In conclusion I should like to suggest that, should the Laboratory Workers' section approve of the plan, a definite recommendation be made from this section to the General Session of the Association, that steps be taken to carry out some such plan as outlined above.

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The Scientific Attitude*

By GEORGE E. VINCENT,

President of the Rockefeller Foundation.

The success of the modern public health movement depends upon scientific knowledge, trained personnel, good organization, enforcement of wise laws and the provision of adequate funds; all of which are the result of intelligent backing of some sort.

A sound program of health protection and promotion falls into some such order as this: (1) sanitation of the physical environment, (2) control of communicable diseases, (3) hygiene,—maternal, infant, school, industrial and mental.

While this may not always be the historical order of development, it is the logical structure which cannot long be ignored. For example, a program of infant hygiene cannot be effectively carried out in a community that has failed to provide good water and milk and proper disposal of sewage and other water.

In Cuba and Panama, in Manila and Singapore, experts backed by military authority and government funds were able to control yellow fever, malaria, typhoid, small-pox and cholera quickly and effectively.

Italy and Spain would seem to be to-day in a position to get prompt action, at least so far as centralized and unhampered authority and power are concerned.

But in Canada, the United States, Britain and most countries of Europe, progress in public health depends upon popular intelligence responding to leadership which commands confidence through social prestige, knowledge and courage.

Results vary widely in different countries. If small-pox be taken as a test, Canada stands high, while the United States is a close competitor of Soviet Russia for the dubious distinction of having the largest number of cases.

There are plenty of evidences that the achievements of science in the fields of medicine and public health have made only slight impression upon whole publics in the Americas and in Europe.

There is widespread, credulous demand for palpably quack remedies. Anti-vaccinationists and foes of animal experimentation are fanatically vociferous. Large groups quaintly deny the very existence of disease.

*Read before the Canadian Public Health Association, Toronto, May 7, 1926.

To the south of the border legislatures actually ban the teaching of a scientific hypothesis accepted by all the leading investigators of the world.

In these circumstances, it is not enough to aim at instructing school children and adults in the principles of public health and personal hygiene, important as this is. There is a more fundamental task, namely, to cultivate the scientific attitude towards life and conduct.

But this is far from easy. There are cynics who insert that it is here that democracy is weakest. It dislikes genuine experts in its "cult of incompetence" and its "passionate pursuit of the second-rate." Nor are experts always blameless for the scepticism of the public.

It is also asserted that the average man so long as he is well scorns the precepts and prohibitions of a negative hygiene, and positively enjoys the risks of a sanguine digestion, and takes as his motto "safety last."

But obstacles cannot discourage the friends of science and the prophets of health and hygiene. The eager people regard the movement not as merely tiresome self-protection, but as a real adventure in fuller, richer, more vigorous and exhilarating life.

The basal problem, however, is to permeate whole populations with an appreciation of the scientific method, a confidence in well-authenticated experts, and a readiness to support with law and money their plans for applying the results of scientific research to individual and community welfare.

It is a long, slow process. Its success will depend largely on the discovery of leaders, educated people who have knowledge and courage, who are not afraid to withstand the attacks of ignorance, of fanaticism and of selfish interests.

After all, in a complex, specialized civilization one of the chief aims of education should be to make the individual realize that he personally can possess only a small fragment of the vast sum of human knowledge and skill. For all else he must depend upon persons who have mastered other fractions of the whole.

Intelligence, then, is tested largely in our modern world by the success with which a person decides upon the authorities he will trust. A man may be known by the experts he picks.

It is not too much to hope that the popular faith now put in mechanical and electrical engineers, in architects, in chemists, will be extended gradually to include more surely biologists, medical scientists, physicians, sanitarians and hygienists. And it may be added, one may be sure, that these will continue to be increasingly worthy of this confidence.

Verdict in Polluted Water Case

By JOHN W. S. McCULLOUGH, M.D., D.P.H.

Miss Susie McQueen, a young woman employed in the Registrar's office, Owen Sound, has contributed an important chapter to the public health history of Canada, in that she has been successful in gaining a verdict against a municipal corporation for its neglect to protect the public water supply.

Owen Sound is a city of some 15,000 people, located on the Georgian Bay about 115 miles north-west of Toronto. The city has a picturesque situation. The business and part of the residential area of the city lies on the banks of the Sydenham River. The remainder occupies the rocky horseshoe escarpment surrounding the lower level.

There are two sources of water supply. The one supplying the higher level comes from the Sydenham River, and is filtered; the low pressure system comes from springs which arise in the rocky area in the neighborhood of Inglis' Falls. The two systems are interconnected, and the lower level supply is supplemented in times of shortage and under certain circumstances by the river water. The spring water, being much cooler, is the more popular.

The City had an outbreak of typhoid fever in 1916, with a few deaths, and the Provincial Board of Health has since that time persistently urged that the spring supply, to which a filter (much overworked) had been added, should be chlorinated. The local laboratory, which was established in Owen Sound by the Provincial Board, kept a daily check on the waters, and the City had ample warning of the dangerous nature of the supply.

All went well, however, until the autumn of 1925, when an outbreak of 25 or 30 cases occurred. Most of the cases were limited to an area supplied by the combined systems. There was some evidence that the low pressure reservoir might be providing the infection, and this was cut off after the outbreak occurred.

At the trial on June 17th last, a great array of witnesses was examined on both sides. In the absence of any other cause and the proved character of the water supply, the weight of evidence pointed to polluted water as the cause.

In his finding, Mr. Justice Logie, before whom the case was tried, rebuked the civic authorities, the corporation, the utilities commission

and the local board of health concerned in the supplying of water to the City, for negligence. He found that all three bodies were equally negligent. He stressed the fact that chlorination of Owen Sound's water supply had been left off despite repeated warnings until it was too late and the whole community was caught in an epidemic of typhoid fever. The plaintiff was given judgment for \$2,000 and costs. The case will probably be appealed. If finally successful the City may be faced with a similar action on behalf of a score or more victims.

There are few court decisions in Canada in regard to the liability of corporations in the protection of the public against sewage polluted water. A few years ago the Dominion Cannery lost an action of the kind, and suffered damages to the extent of \$14,000. The Owen Sound case is the first successful action of this nature against a municipal corporation.

Recently, the City of Everett, Wash., U.S.A., was mulcted in the sum of \$6,000 for the death of a citizen's wife, who died of typhoid, from the use of city water. The infection was proven to have gained access to the city main through a by-pass from the river. Other cases are cited in the American Water Works Handbook and in Public Health Law.

No matter what may be the final result, the verdict in the Owen Sound case marks a new era in relation to the question of municipal protection of water supplies. In practically every outbreak of any consequence in Ontario in the last 15 years, the cause has been traced to the neglect of local municipal authorities to establish the well-known means of protection, which if adopted and satisfactorily operated, would have prevented these outbreaks. Too often the local authorities, when urged to afford protection to their water supplies, advance the well-worn argument, "We have never had any typhoid". Invariably, if the use of untreated water is continued, communities sooner or later are caught, when it is too late. If the judgment referred to holds on an appeal, municipalities will feel constrained to take precautions in respect to their water supplies in advance of epidemics of typhoid. In any event, the result of Miss McQueen's action forms a salutary warning to other municipalities selling polluted water to their people, and is an example of courage that is commendable.

The Value of Health Teaching in the School*

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THE present public health movement, with its vision of greater health and happiness for mankind, is based on recent advances in medical and sanitary sciences. Such information to be effective has to be translated into popular non-technical language and carried to the masses of the people. How is this health teaching to be done?

A great deal of health education is being carried on through newspapers, magazines, publications of medical officers of health, through medical and dental professions, through public health nurses, and teachers in the school.

It is difficult to evaluate the service rendered or results obtained through any one of these means.

However, we do know, that health depends on habits formed, and that the early years of life are important in habit formation. As the child grows older it becomes increasingly difficult to change habits and attitudes. Childhood, therefore, seems the period for health teaching.

As the child is subject to home influences almost entirely for the first five or six years of his life, parents have a great responsibility. Some parents, on account of their knowledge of child psychology and hygiene, are able to meet the situation more or less adequately. Others, however, through lack of this knowledge, or failure to recognize its importance, do not give the child the necessary training in desirable habit formation. To this latter class, a public health nurse may come, giving health instructions. But with insufficient number of public health nurses, lack of funds in some municipalities to employ them, the limited time a nurse can spend in each home when she does visit, as well as the common disinclination of adults, unless in dire need, to change their ways, there are many homes giving to their children indifferent health training.

We turn to the great educational force in the community, the school. With the realization that mental progress and physical health go hand in hand, the ideal of education is now a well trained mind in a healthy body. Surely, the school where children spend a large part of their

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waking hours, during eight to ten years of the formation period of their lives, is an important factor in physical as well as mental growth. School is a place where children come to learn, where there are teachers scientifically trained, and where instruction is given individually or in groups in controlled surroundings.

Let us consider the aims of health education as carried on in the schools. They are, briefly, to establish habits and attitudes which will insure abundant vigor and vitality throughout school life and in later years; to give sufficient information to make observance of such habits intelligent; to influence parents and other adults through the health education program for children to better habits and attitudes, so that the school may become an effective agency for the promotion of health in the family and community, as well as in the school itself.

How does the school endeavour to reach such broad objectives?

As complete health is not possible in presence of physical defects, a good health program provides for a physical, mental and dental examination of each child, during his school life. At this time, defects are noted, treatment urged, and instructions in health habits given. Obviously the value of this examination is much increased if the parent is present. This is also an opportunity to reach the more elusive pre-school child, and in many schools, parents are encouraged to bring their little run-a-bouts for examination at the same time as the school child, thus giving them an earlier start on the road to health than might have been possible otherwise. In many towns and cities, and increasingly in rural districts, school children have the benefit of examination and instruction from these specialists.

The psychiatrist is unfortunately not so frequent an adjunct to the school staff. The need of his services is being increasingly felt—in selecting pupils for special instruction, and for advice regarding the problem child.

The school nurse brings the information thus gained to the teacher and the parents, if they were not present at the examinations, and helps them work out a plan for correction of remediable defects and supervision of those non-correctable.

Definite instruction, both individual and group, is given by the nurse to supplement instruction given by the teacher, and as natural situations arise, as when Tom cuts his finger and Mary catches her sneezes in her handkerchief.

These contacts with doctor, dentist and nurse are doubtless of educational value to the parent and child, and are becoming increasingly so as we learn to use our opportunities.

However, the person who is of paramount value in health teaching is the grade teacher. The alert teacher welcomes the many opportunities for health teaching in the classroom. She knows that health depends on formation of right habits and attitudes, and she employs all her pedagogical technique in using natural situations in the classroom, and every subject in the curriculum as far as possible in health teaching. She knows that health is not a subject which can be assigned to a special corner of the curriculum. It is a living thing which should permeate and vitalize every activity in the school. The teacher's skill in accomplishing this would doubtless be greater if health teaching had been included in her Normal School Course; but many teachers who have not had the privilege have grasped the new public health idea, and introduced it into their classrooms to the benefit of their pupils.

In primary grades, health teaching consists chiefly in promotion of health habits and attitudes, through use of situations arising in the classroom, such as wearing suitable clothing indoors, drinking milk at lunch when pupils bring their lunch to school, and in correlation of health with more academic subjects. Number work in arithmetic is woven round objects which the teacher wishes to be familiar to the children, such as oranges, apples and milk. Stories and songs can have health subjects as their themes. The children illustrate health rules in their art work, and in pantomime. The interested teacher can also work out attractive systems for checking up observance of habits. Action, not mere knowledge, is the aim of health teaching. As many of these habits can be practised only at home, the motivation to their observance has to be sufficiently impelling to insure their carry over into the different, and sometimes difficult, home environment.

In health teaching, the teacher has a valuable ally in the strength of group opinion. To quote Professor Turner—"Why is the school-room of primary importance in habit training? Because in every walk of life, the most important factor in determining individual action is the judgment of the individual's own social group. Style in clothing, social customs, and social attitudes are problems of group psychology. It is often sufficient reason for not doing a thing to say—'It isn't done.' You who have tried Health Education with children have learned that the advice of the doctor, lecture of the nurse, and perhaps even the commands of the parent, are less effective than the attitudes and habits of the boys and girls with whom the child associates. The child conforms to the judgment of his social group, and, happily, the development of this group's attitude makes teaching pleasanter instead of more burdensome."

The value of group influence is seen very conspicuously where milk is given out in the school. Many a child who could not be persuaded to touch it at home, is most enthusiastic about it at school.

In the intermediate and senior grades, much can be done through correlation of health teaching, with geography, history, composition, art, manual training and household science. Hygiene is perhaps the subject which has benefitted the most, through the infusion of the health idea. Hygiene is no longer a meaningless repetition of the names of the bones of the body—it now bears a definite relation to the personal, home and community life of the pupils. History, which is the story of the advance of civilization from primitive times to our complex modern life, offers many fascinating opportunities for teaching community hygiene;—through slides, plays and songs, health knowledge is gained and impressed in a pleasant way. Plays are being increasingly recognized as a valuable method of education, making use, as it does, of the natural dramatic instincts of the child.

It is essential in effective health teaching that the teacher be acquainted with the pupils' home background in order to know his needs, and be able to adapt school instruction to his level. Many a teacher makes it a point to visit the homes of her pupils. The school nurse assists in the mutual understanding of teachers and parents, acting as interpreter of the home to the school and of the school to the home. As it is an advantage for the teacher to meet the parents of her children in their own environment, it is also valuable to the parent, especially the foreign-born, to visit the school and become acquainted with the teachers in the surroundings in which Jane and Robert, Tony and Beckey, spend so much of their time. This interchange of visits leads to a better understanding, and hence greater mutual helpfulness.

However, much of the effectiveness of health teaching is lost if the environment belies the instruction given, and does not permit carrying out health habits taught. Health habits can be most easily formed in healthful surroundings. School buildings should protect, and contribute to, the health of the pupils, through proper ventilation, equable heating, adequate lighting, adjustable desks and facilities for washing hands. All schools do not reach this standard as yet, but it is surprising what is accomplished by an enthusiastic and resourceful teacher who gains the co-operation of pupils and parents. The common drinking cup or dipper need no longer adorn the bench in a rural school. By degrees most of the fundamentals of hygienic living can be introduced into the most primitive school buildings. The fact that it is possible to control to a

considerable extent conditions in the school, helps to make it a favorable teaching centre.

In discussing environment in relation to health, one must not overlook the playground, which should make a valuable contribution. Physical activity is a natural instinct. There is a direct relationship between health and success in big muscle activities which children easily recognize.

Health education, thus, seeks to lead the children to secure for themselves increased personal well-being, and eventually better home and community hygiene. It is a preparation for present and future living. Many schools try to give the girls further preparation for future responsibilities by including in their curriculum, courses in Infant Hygiene, often called Little Mothers' Classes, or Junior Health Leagues. These lessons are usually taught by the nurse, but sometimes teachers and nurses share the lessons with good results. The pupils respond most enthusiastically to this instruction, partly because it appeals to their natural instincts. The course is not given to these girls as prospective mothers, but as to girls who are anxious to help mother, or neighbor, give good care to the baby.

Some may hold that instruction in Infant Hygiene should be given in the home. But in how many homes is it being done, even where there is a young baby to care for? It is true the girl may pick up some information, but does she gain an intelligent conception of baby care? Is this instruction not usually left until the girl is a mother herself, when she is handicapped by previous misinformation from well-meaning friends? It has proved difficult to find the prospective young mother in order to give her needed instruction when the girl is in school, and is receptive to teaching. The results of these classes have proved very gratifying. Many a mother, or married sister, or neighbor with a young baby is thus reached through the school child. There is also sufficient evidence among the young mothers of to-day, with whom the public health nurses come in contact, that these lessons are not forgotten.

The school has also a contribution to make to the parents and other adults in the community, indirectly through the children, directly through contact with the school personnel, principal, teachers, school doctor, nurse and psychiatrist. Home and School Clubs are helping in promoting this much to be desired contact between the home and the school. They are instrumental in arranging programs and study groups, dealing with various phases of education such as health, child psychology and home nursing.

It is difficult to evaluate definitely the outcome of health teaching,

but in Malden, Mass., an attempt was made to find out by means of questionnaires sent to the parents of the school children, the results of a four years' experiment in health teaching. According to the judgment of 233 parents, there was an improvement in the amount of sleep, in habits of cleanliness, choice of food, and in pastime, in from 60% to 85% of the children involved. Two-thirds of the parents reported an improvement in their children's health as shown by cheerfulness, absence of fatigue in the morning and improved appetite. The gain in weight among a group of undernourished children who had these lessons was considerably greater than that of a similar group who did not have them.

With increased understanding and co-operation between the home and the school, can we not say the possibilities of health teaching in the school are unlimited.

A Study of Milk Problems in Canada

By a Committee of the Canadian Public Health Association

DR. M. M. SEYMOUR, Chairman

(Continued from last issue)

The Government of British Columbia maintains seven qualified veterinarians who devote their whole time to testing dairy herds free of charge to owners. Tuberculin testing is done at the request of owners and is not compulsory, but the Department has power to quarantine.

A number of municipalities have passed milk by-laws to regulate the sale of milk, and such by-laws provide that dairy herds supplying milk must be tuberculin tested by the Department veterinary inspectors at least once a year. Medical Health Officers of these municipalities demand production of the certificates of the Provincial veterinary officers before issuing licences to dairymen.

Reacting animals are valued by the Provincial inspectors and destroyed under their supervision, the maximum valuation for pure bred registered animals being \$200, and for grades \$100, the owner receiving fifty per cent of the valuation in compensation.

The Government of British Columbia pays to owners of destroyed animals approximately fifty thousand dollars per annum.

With a view to establishing some means for the tuberculin testing of dairy cows other than by the Dominion Department, the Provincial Health Department of Saskatchewan two years ago prepared a model milk by-law suitable for passing by the towns and villages of the Province. This by-law is very short and makes provision for the following:

(a) The licensing of all persons offering milk for sale within the municipality.

(b) The inspection of the dairy premises of producers by an official employed and paid by the municipality.

(c) A report by such official as to whether the producer should receive a licence or not.

(d) The withholding of a licence in the absence of a certificate from the producer signed by a qualified veterinary surgeon and stating that his cows have been tuberculin tested within the previous six months and are

non-reactors. This by-law has been received most favourably by the smaller municipalities for whom it was intended, and already thirty-five towns and seventy villages have placed this by-law on their statute books, which means that if the by-law is properly enforced 50,000 people have during the two-year period been protected against bovine tuberculosis.

The usual provisions of a by-law of this nature regarding the sanitary conditions of dairy premises are not inserted inasmuch as they appear in the Provincial regulations of milk and certain milk products.

Tuberculin Testing V. Pasteurization

While the tuberculin testing of all dairy herds is advocated it must be clearly understood that tuberculin testing is not a substitute for pasteurization, and public health authorities must seek to correct the idea which is growing up in the public mind that pasteurization and tuberculin testing are alternative methods of protecting milk supplies. If we have no pasteurization, tuberculin testing is a definite and necessary advance, but if we have pasteurization, provided that we are assured that it is scientifically carried out, tuberculin testing is no longer an essential from the public health viewpoint.

Certified Milk

It has been stated elsewhere that there is a demand on the part of a certain section of the public for a grade of raw milk to be placed on the market, and that it is desirable that this be met by permitting the sale of certified milk.

The first question which arises in connection with certified milk is, "Under what auspices is the milk to be certified?"

A provincial authority, while it may be prepared to define and fix standards for certified milk, is not usually disposed to assume responsibility for certification and it usually means that the city health department or some other local authority must certify the milk.

The name "certified" is, in itself, misleading, for the public, while they do not necessarily have any definite or concrete views as to what "certified" means are undoubtedly under the impression that a definite protection against milk-borne disease is given to the consumer of certified milk, whereas "certified milk" is milk which is merely certified as conforming to certain standards.

In the course of an investigation of the milk supply of a western city a few years ago, it was found that the certified milk, which was specially recommended by a number of the practising physicians of the city and which bore the certification of the local medical milk commission,

had a higher bacterial count than any other grade of milk which was being sold.

There are some authorities who hold that certified milk should be pasteurized, and if the certification is taken to mean that the milk is incapable of conveying communicable disease their contention is justifiable.

Ordinarily, however, certified milk means raw milk, which complies with certain additional requirements such as:

- (a) The cows being subjected semi-annually to the tuberculin test.
- (b) A much lower bacterial count than ordinary raw milk.
- (c) Rigid restrictions as to temperature.
- (d) Frequent inspection of the dairy herd, by a veterinary surgeon, and of the employees by a physician.

The Provincial Board of Health of Manitoba has adopted regulations respecting the production and sale of certified milk. The following provision of these regulations is of special interest:

"To cover the costs incurred by the board respecting the supervision and inspection of dairies producing certified milk every person or firm producing such milk for sale shall pay to the board monthly the sum of one cent for every quart produced and sold within such period, accompanied by a statement showing how the required payment was arrived at."

Certified milk is offered for sale in the city of Montreal and this milk comes from only one farm. The certification is given by the Montreal Certified Milk Commission, composed of five medical men, and it is stated to give satisfactory results.

Certified milk is provided for in the Province of Ontario under the Ontario Milk Act, and it is required to be certified as complying with certain conditions laid down in the Act, a certificate being obtained from time to time from the Medical Health Officer of the Municipality in which it is consumed, or from an incorporated society of medical practitioners.

In the city of Ottawa an attempt was made to place certified milk on the market, but the bacterial standard could not be maintained and therefore the use of the label certified is not now permitted.

Inspection and Laboratory Control

The annual appropriations voted to provincial and municipal authorities for control and inspection of the milk supply are invariably inadequate and insufficient to enable the work to be properly carried out.

In this connection opinion varies as to the advisability of concentrating

on inspections at the point of production and methods of handling, or concentration on a well-equipped and well-manned laboratory with facilities for running all modern tests of the milk as supplied to the consumer which would give in most cases a fair indication of the manner in which the milk is produced and handled, or, on the other hand the feasibility of spreading out the available activities so as to embrace in a somewhat perfunctory manner all phases of the work.

The City Health Department of Ottawa finds that the use of the sediment test, by means of the cotton disc and pump, is the most satisfactory way of detecting dirty milk and locating the source of trouble. Further, the sediment test in combination with bacteria count tends to show whether the high counts are due to dirty methods of production or to age or temperature factors. A clean disc with a high count in the milk indicates either old milk or improperly cooled milk, and shows the inspector where to look for the cause. A dirty disc with a comparatively low count indicates dirty methods but good cooling. The city sends the disc from the sediment tests to the producers, and has found this much more impressive to them than the bacteria counts, which in many cases mean little to a farmer.

The City Health Department of Calgary considers that attention should be concentrated more on the milk plants and the distributing centres, than on any effort to inspect farms frequently. The Department is of the opinion that farms supplying milk to the city should be inspected yearly, before a license is issued, and the health officer adds, "We are not so particular about inspection of dairy farms, as we consider that careful inspection and testing of the milk at the plants, and of samples taken from delivery wagons, gives us a better idea of the cleanliness and the keeping qualities of the milk and the butter fat content, than any amount of farm inspections can do".

The Health Department of the city of Victoria considers that bacterial counts of raw milk are useless as they vary from hour to hour, and they may be high one day and low the next in milk procured from the same farm. The milk before sale by vendors is regularly tested for sediment and butter fat, and the result of the tests published in the daily papers, after the name of each vendor.

In the case of public milk supplies where the producing plants are situated at a distance of from 15 to 150 miles from the consumer, the frequent inspection of all dairy farms is not practicable with the limited number of inspectors, and the health authority must be content with an inspection of the premises from once to four times yearly, with a view to licensing and educational propaganda. Attention must be focussed on

the bottling or pasteurizing plants, which should be under almost daily observation.

Municipalities which permit the sale of raw milk, whether by choice or through force of circumstances, are faced with the necessity of monthly, if not weekly, inspection of all producers if the supply is to be safeguarded, and in the case of small urban centres, where no provision is made for a dairy inspector, the supply of a safe milk becomes a very acute problem. It is questionable if there is any municipality in the Dominion with a population of less than 3,000 which has a trained dairy inspector to protect its milk supply.

The only solution would appear to be the subdivision of the various provinces into health districts of suitable area, each provided with a full-time district medical health officer and such inspectors or sanitary officers as are necessary.

Temperature During Transportation

Conditions regarding transportation vary in the different provinces.

In the east only a small portion of the market milk is hauled by rail, the majority being conveyed from the farm to the distributing centre by motor truck, whereas in the prairie provinces the great bulk of the milk is shipped by rail, and subject to delay.

During the summer months the temperature of this milk is naturally affected by cans standing in railway depots awaiting the arrival of trains. Cooling platforms would undoubtedly be of great service in keeping the milk at a low temperature. Railroad officials, however, claim that there is no money in hauling milk, apart from any question of the provision of cooling tanks on platforms, while farmer's locals and other community associations are not enthusiastic about the installation of such tanks when they are approached.

In those parts of the Dominion where the summer temperature is high, it is almost essential that delivery wagons conveying milk from the distributing centre to the consumer should carry ice, in which the milk is packed. Where this is done there is no difficulty regarding delivery at a satisfactory temperature.

In some localities the use of ice in the milk delivery wagons is obviated by resorting to night and pre-sunrise delivery.

Practically every milk by-law provides for the milk being kept at a temperature of 50° Fahr. or lower during transportation, and it is largely a matter of arrangement between the local health authority and the producer and distributor as to how this provision of the by-law is to be carried out.

Minimum Standard for Conditions Under Which Milk is Produced

One of the dairy inspector's greatest troubles is the individual who keeps two, three or four cows and insists on being recognized as a dairy man, at the same time having neither the inclination nor the financial ability to adopt methods and construct premises which are in accordance with modern methods of milk production.

Such a man ordinarily would be refused a licence to sell milk in a progressive community, but on the other hand he has a right, should he decide to mend his ways, to demand what is required of him, and it would seem desirable that some minimum standard be arrived at for the production of clean and safe milk, whether it is eventually to be pasteurized or not.

The following suggested essentials drafted on broad and general lines are offered:

- (1) The quality of his product will conform to the definitions and standards laid down by local municipal or provincial laws.
- (2) He shall not permit any milk drawn from a cow which has reacted to the tuberculin test to be used for human consumption.
- (3) His dairy herd shall be clean and, to the best of his knowledge, healthy.
- (4) His cow-stable shall have a watertight floor, have sufficient air space, light, ventilation and drainage, shall be free from dirt and manure, and poultry and hogs shall be excluded.
- (5) He shall provide a screened milk-house with watertight floor, where the milk will be strained, cooled and filled into sterilized containers.
- (6) The water used for washing purposes shall be of a safe, sanitary quality.
- (7) The milk when drawn from the cow shall be immediately cooled to 50° Fahr. or under, and kept at this temperature until shipped.
- (8) His milkers shall wash their hands before milking and all employees shall be clean in their persons and habits, free from communicable disease, and shall not be carriers of typhoid, diphtheria or any other disease.

Standardization of laws with the control of milk supplies throughout the Dominion is something to aim at, and it should be possible to arrive at certain minimum requirements as above indicated, for all points at which milk is produced for public consumption.

Standardization and legislation can be carried too far, however, and officials should be given some opportunity of exercising their common sense and good judgment. For instance, on some farms one may find the very best of equipment in the way of modern, well-constructed cow-

stables, properly drained, lighted and ventilated, and still the methods employed are extremely careless and dirty, while on the other hand one might conceive of a miserable tumble-down shack in which the owner, if he used clean methods, might produce safe milk.

Of the foregoing eight essentials, the only one which may be disputed is the provision of a milk-house.

If the principles of sterilization of containers and utensils and cooling are admitted as inseparable to a safe milk supply it is difficult to see how any hardship is imposed on the dairyman, and how these principles can be given effect to in the absence of a milk-house, which need only be a very small shed.

Each municipality will wish to elaborate on these proposed fundamentals of control, and in so doing, other important requirements, such as covered milk pails, milking with dry hands, and the transportation and keeping of milk at a low temperature will be dealt with.

Individual Cows

The keeping by individuals of one cow for their own use, the milk from which is not offered for sale, is a problem which arises not only in the rural districts but in our towns and cities.

As a general rule regulations and by-laws control only the supply of milk in so far as it is offered to the public for sale, but no authority is given for regulating or restricting the conditions under which an individual obtains milk from his own cow.

The milk from these isolated cows privately owned is no doubt responsible for the spread of communicable disease, although not in epidemic form, and satisfactory means of regulating the premises and methods under which such milk is produced will have to be found.

The example of the city of Toronto, which, with a population of over half a million, reports a maximum of 10 individual cows owned by private citizens within the city limits, might well be emulated, or better still, the city of Hamilton, which reports that there are none.

Legislation

In preparing milk and health legislation generally, the question always arises, "Shall we require the highest standard of improvement which we eventually expect to enforce, knowing that we cannot hope to obtain it from the date legislation becomes law, or shall we ask for only such standards as we believe can be observed, and enforce the law to the letter?"

Ethically the latter alternative is doubtless the correct one, but in

practice it is found advisable to set our standards by what we know to be safe for protection of the public, and leave it to the dairy inspector or official enforcing the law, to use his discretion by getting the producers and public behind the principle involved, and using the letter of the law only when it may be necessary.

And when the necessity does arise the full force of the law should be placed behind the health officer, so that the offender may realize that business is meant.

* * * * *

Résumé

The attitude of the health officer to the farmer should be one of encouragement. Every means possible should be offered to the farmer to go into the dairy business, always with the understanding that he must place a product on the market which will be clean and safe.

The average daily milk consumption of 21 of the largest cities of the Dominion is .71 pint per capita.

Milk has been the means of causing more disease than any other single food, and it is as much the duty of the local health authority to safeguard the milk supply as it is their responsibility to provide a safe water supply for the citizens.

In the light of present-day knowledge, no public supply can be considered safe from tuberculosis, diphtheria, septic sore-throat, typhoid fever, scarlet fever and other milk-borne infection unless the milk has been scientifically pasteurized.

In communities with a population of less than 5,000 it is difficult to arrange for a company to undertake the establishment of a pasteurizing plant with a thermal recorder and modern equipment. Any attempt at commercial or non-scientific pasteurization is worse than no pasteurization, inasmuch as it tends to create a false sense of security on the part of the consumer.

Federal, Provincial and Municipal health departments should, in undertaking propaganda work on pasteurized milk, make it perfectly clear that scientific pasteurization does not affect the digestibility of the milk, is not a synthetic product, has as high a food value as raw milk, is good for young children, and should include instructions as to its adaptability for infant feeding.

The first step towards successfully introducing any sanitary reform, is to secure the co-operation of the medical profession, by whom the public seem to be guided in such matters, rather than by public health officials.

Too much propaganda work cannot be undertaken to convince the public of the necessity of pasteurization.

The following standard definition for pasteurized milk is recommended for use through the Dominion:

"Pasteurized milk is milk which has been heated to a temperature of not less than 142° Fahr. and not more than 145° Fahr., held at such temperature for not more than 30 minutes and immediately cooled to a temperature of 50° Fahr., and held at or below this temperature until delivered to the consumer."

Pasteurizing plants before receiving a licence should pass a successful probation period of two or three months, and during that time should demonstrate their ability to pasteurize scientifically and place a safe and satisfactory product on the market, as shown by inspections and the results of the bacterial count of the milk.

There is no record of the existence of any municipally-owned pasteurizing plant in the Dominion. The protection of a municipal water supply and the prevention of the destruction of property by fire are both regarded as the responsibility of a municipal council, and the argument is surely sound that a municipality should also install apparatus for the safeguarding of its milk supply against communicable disease.

While the pasteurization of milk on the farm is, generally speaking, impracticable, there are throughout the Dominion a limited number of large dairy farms which might with advantage pasteurize the milk before shipping.

Pasteurization has solved the problems of controlling and preventing outbreaks of milk-borne disease in large centres of population, but the greater part of the population of the Dominion is rural, and we must devise some means of making the rural milk supply as safe as the city milk supply.

Until means can be found for the pasteurization of milk offered for sale in villages, towns and small cities, every effort must be used to protect the consumer by producing milk from healthy cows and by preventing infection between the cows and the consumer.

Pasteurization does not eliminate the necessity of healthy cows and protection of the raw product, but progress can best be made by moderating the demands of public health, and if pasteurized milk in larger centres and clean milk from healthy cows in rural or semi-urban districts be our immediate aim we shall gradually reach the goal of pasteurized-certified milk.

The problem of first importance so far as the raw milk is concerned is the elimination of bovine tuberculosis from the milk, and

until city pasteurizing plants have demonstrated beyond doubt their ability to accomplish continuously scientific pasteurization cities should also see to their dairy herds.

Federal assistance in the matter of free aid for tuberculin testing under the regulations relating to Tuberculosis (Municipal Dairy Testing) appears to have been discontinued so far as new applications from cities and towns are concerned.

Health authorities should not rest content until measures have been initiated which will eventually result in the tuberculin testing of every milch cow in their district.

The Provinces of Quebec and British Columbia offer free tuberculin testing through their Departments of Agriculture.

Tuberculin testing is not a substitute for pasteurization, and public health authorities must seek to correct the idea which is growing in the public mind that pasteurization and tuberculin testing are alternative methods of protecting milk supplies.

It is realized that there is, and will be for some time, a considerable public sentiment in favour of raw milk, and to meet this demand and to quiet the opponents of pasteurization it is desirable that the sale of certified milk be permitted.

In the case of public milk supplies where the producing plants are situated at a distance of from 15 to 150 miles from the consumer, the frequent inspection of all dairy farms is not practicable with the limited number of inspectors, and the health authority must be content with an inspection of the premises from once to four times yearly with a view to licensing and educational propaganda. Attention must be focussed on the bottling or pasteurization plants which should be under almost daily observation.

Municipalities which permit the sale of raw milk, whether by choice or through force of circumstances, are faced with the necessity of monthly if not weekly inspection of all producers if the supply is to be safeguarded, and in the case of small urban centres, where no provision is made for a dairy inspector, the supply of a safe milk becomes a very acute problem. The only solution would appear to be the sub-division of the various provinces into health districts of suitable area, each provided with a full-time district medical health officer and such inspectors or sanitary officers as are necessary.

Practically every milk by-law provides for the milk being kept at a temperature of 50° Fahr. or lower during transportation, and it is largely a matter of arrangement between the local health authority and the pro-

ducer and distributor as to how this provision of the by-law is to be carried out.

Standardization of laws dealing with the control of milk supplies throughout the Dominion is something to aim at, and minimum requirements for the production of clean milk on the farm have been outlined in this report.

The keeping by individuals of one cow for their own use, the milk from which is not offered for sale, is a problem which arises not only in the rural districts but in our towns and cities. The milk from these isolated cows privately owned, is no doubt responsible for the spread of communicable disease, although not in epidemic form, and satisfactory means of regulating the premises and methods under which such milk is produced will have to be found.

The days of enacting and seeking to enforce health laws which are not based upon the wishes of an informed public, have passed. Any health authority, if it is to function successfully must have the support and co-operation of the people.

Attached to the report are 3 Appendices.

I. Statistics on Municipal milk supplies of 23 cities of the Dominion.

II. Cities and towns in the Dominion receiving aid from the Federal Department of Agriculture under Tuberculosis Order (Municipal Dairy Testing).

III. Epidemics reported in Dominion of Canada due to milk-borne disease.

Submitted on behalf of the Committee.

Regina, Sask., May 28th, 1925.

M. M. SEYMOUR, Chairman,
R. H. MURRAY, Secretary.

The Prevention of Infection in Early Infancy*

By GEORGE SMITH, M.D.,

Visiting Physician, Hospital for Sick Children, Toronto.

VARIOUS types of infection may occur in infancy as in other periods of life, but the outstanding infections and those causing the greatest amount of trouble are those of respiratory origin: conditions such as Rhinitis, Naso-pharyngitis, Otitis Media and Pneumonia, the latter usually of the lobular type. Not only are they responsible for a relatively high percentage of our infant deaths, but they are also a troublesome factor in our nutritional cases, prolonging the latter often for weeks.

The death rate from respiratory diseases as reported by the City of Toronto was 11.9% in 1925 and 11.6% in 1924. This percentage has, of course, varied in the last decade—one of the highest death rates from this cause being in 1916, when it reached almost 17%.

The death rate from prematurity averages about 30% yearly. The statistics from the Burnside (Toronto General Hospital maternity wing) and the Infant Ward of The Hospital for Sick Children show that about 1/3 of these premature infants die of Broncho-pneumonia. Cox in a statistical study of Infectious Diarrhoea, Fermentative Diarrhoea, Acute Intestinal Intoxication, and Decomposition occurring in the Infant Ward of the Hospital for Sick Children during the year ending October 1st, 1920, was able to show that respiratory infections had a very important bearing on the progress of the nutritional disturbance and also contributed a high percentage of the etiological factor in the fatal cases. In addition to these facts, one might add that a high percentage of the autopsies performed at the same institution show some evidence of respiratory infection. One may naturally conclude, therefore, that the subject of this paper is to deal with ways and means of preventing respiratory infections in infancy.

First of all, one should point out and emphasize the frailty of the material one is working with. Anatomically the infant lends itself to infection. The organs are small and almost fragile. The distance from the nose to the lung is very short. Infections spreading by continuity or by the inspired air has a very short way to go to reach the lung. The

*Read before Canadian Health Congress, May, 1926.

physiological and mechanical resistance to oncoming infection is slight. The inflammatory secretions tend to remain where they are secreted. Anatomically, the infant welcomes and harbours infection in the nasopharynx and lungs.

This condition of affairs is made worse by disturbing nutritional diseases. The longer the period of correction of such a disease, the more chance there is of the acquiring a parenteral infection from which it may succumb. This statement recalls the fact that breast-fed infants are less susceptible to infections than those babies fed on the bottle. This may be due to the facts that, first, these babies physically are stronger babies, and, secondly, that they may have received some passive immunity against infection from the mother through the breast milk. This question of transmission of immunity from the mother to the infant has many arguments to support it. The claim has been advanced by several workers that it is the colostrum which contains the protecting factors. If this be true, one would feel that all infants start with some degree of immunity, the amount depending on the immunity of the mother.

Before taking up the prophylactic measures which help in preventing respiratory infections, a few words should be said about the functions of the nose and how they are influenced by such phenomena as enlarged adenoids. Briefly, the function of the nose may be said to be mainly that of warming and supplying with moisture the air which is about to enter the lungs. The nasal apparatus is really a very efficient modern heating system. Its vascularity is very sensitive to changing temperature, however. An obstruction such as an adenoid at the posterior nares therefore prevents the proper preparation of the air, particularly if this adenoid is so enlarged by inflammation as to completely shut off the posterior passage. The air then enters by the mouth, and although the mouth and pharynx may take on this function of the nose for a short time, it does not do so for long, the mouth and pharynx both becoming dry and parched. When this happens, the air then entering the lung is not prepared for coming in contact with the delicate lining of the air cells and passages. It would seem reasonable to suppose that such a phenomenon would lessen the protection of the respiratory apparatus to infection. Not only is the enlarged adenoid in this way detrimental to the health of the individual in that it prevents the proper physiological process to go on, but from its anatomical structure, it is particularly well-fitted for harbouring infection, if infection should occur. On examining a normal adenoid, one finds that in structure it is something like a half walnut with clefts extending up into its

substance in which bacteria may lodge. Examination of removed adenoids will show at times inflammatory debris expressed from the clefts—similar to the debris one finds in diseased tonsils. When once infected, the adenoid may give rise to a series of head colds by simply the changing vascularity occurring in the nose and adenoid by the child becoming chilled through exposure to a draught or cold air. How frequently one sees an infant contract a head cold in the Autumn followed by a whole series of head colds until the Spring brings warm weather with its curative results.

It does seem, therefore, that as naso-pharyngitis is the usual forerunner of Otitis Media, Bronchitis, Broncho-pneumonia, etc., that this organ should be put on the highest protective plane possible, and this is often only reached by the removal of an offending adenoid. The operation is simple, done in a few minutes, with no shock to the infant. There is no cause to wait. Such a physical defect should be corrected just as soon as it has proven itself to be a defect. Recurring head colds, an attack of Otitis Media, simple Bronchitis, should suggest this course at once. Some cases are not fully relieved until the tonsils are removed also. This is a much more difficult procedure in a young infant.

Usually the removal of the adenoid alone gives the necessary protection. Relative freedom from infection and normal physiological processes are usually established. If such a child should acquire an infection, it usually clears up in a much shorter period of time. This, however, is not a cureall, but is, I think, one of our best prophylactic measures.

It would seem to be unnecessary in this age of preventive medicine to say that an infant should be protected and guarded from infection by those who have charge of it. Yet, daily, one comes in contact with sick infants who have been infected either by thoughtless mothers or selfish and sentimental friends and relatives. So that it is really necessary at times to emphasize the fact that these sensitive infants should be carefully protected. If the one who is looking after the baby should acquire a head cold, another should take her place. If this is impossible, then masks and all-over aprons or gowns should be worn from the very commencement of the cold, not 2-3 days after it has started, for infection usually takes place during the early stages of the disease. It should also be pointed out that what appears to be a simple cold in an adult, may become very severe when transmitted to a young delicate infant. In this connection may I point out the precautionary measures in use on the Infant Ward at the Hospital for Sick Children

for the prevention of transmission of disease. This ward is divided into a number of small rooms called cubicles, capable of accommodating 2-3 babies. Each cubicle has its own running water, ventilation, heating plant, etc. The nurse on entering the cubicle puts on a gown over her uniform. Before going out, the gown is taken off and hung up in the cubicle. She washes her hands before putting on this gown and again after the gown has been taken off. She and all others passing in and out of these cubicles wear gauze masks all the time. The nurses have no colds or they would not be on duty. Still they all wear masks and observe every measure for the protection of the babies under their care.

The next point I wish to emphasize is the necessity of preventing the baby from becoming chilled. Proper clothing in keeping with the time of year should be used. Exposure to cold air should be avoided. The baby should be kept comfortably warm at all times. When cold, their resistance to disease is lowered. A startling example of this fact is found in comparing the mortality rates among prematures in the Burnside and those brought to the Hospital for Sick Children. In the Burnside the infant passes into the premature room soon after it is born. It never has a chance to get chilled. Their mortality rate is about 25%. In those cases going to the H.S.C., however, the mortality rate is about 66%. They have been allowed to become cold—have been exposed to infection in some cases, and therefore have not had the chance that the prematures have had in an institution such as the Burnside in which they were born. It might be pointed out in this connection that in some cities, heated ambulances are kept for the transfer of such cases to the hospital when found necessary. To successfully reduce the mortality rate in prematures it is necessary to (1) keep them warm, (2) feed them breast milk, (3) protect them from parenteral infection. It should be pointed out that Naso-pharyngitis and Bronchitis should be treated most intensively. Often this is not the case. Instead of being looked upon as conditions of great potential danger, these simple infections have often been neglected. Such cases require warm air, not cold air. The naso-pharynx should be bathed with a simple oil, such as Liquid Albolene or Paraffin Oil.

SUMMARY:

1. Infants should be breast-fed when possible.
2. Protection from outside infection by the wearing of masks, gowns; free use of soap and water by attendants is absolutely necessary.

3. The removal of the adenoids when recurring head colds, etc., occur will usually lessen the probability of infection and prevent the severe types of respiratory disease from occurring.
4. Keeping the baby warm by proper clothing, avoiding exposure to cold winds, air or dust are all excellent preventative measures.
5. A realization that an upper respiratory infection is often the forerunner of a more serious respiratory condition. That such conditions should be treated most intensively.

Report of Committee on Cancer

(Appointed by Ontario Health Officers' Association, 1925)

YOUR Committee on Cancer, appointed last year to investigate whether deaths from Cancer were or were not on the increase in this Province, would report that in our opinion there has been a steadily increasing number of deaths each year from this disease.

This increase may be due not only to the increasing incidence of the disease itself, but also may be due to the fact that better methods of diagnosis, such as X-Ray and other modern clinical aids, are now in use, and to the fact that there is now more careful reporting of deaths by physicians. We are indebted to the Provincial Registrar General for the following statistics of five year periods from 1900 to 1924, showing a general increase in Ontario and also an increase in the four largest cities of the Province:

	Year.	Population.	Deaths from all Causes.	Deaths from Cancer.	Rate per 100,000 Population.	Per cent. of Cancer to Total Deaths.
Ontario:	1900	2,325,712	29,494	1,055	45.2	3.57
	1905	2,319,078	29,748	1,224	52.8	4.18
	1910	2,489,241	31,332	1,587	63.8	5.04
	1915	2,687,429	33,294	1,982	73.8	5.94
	1920	2,892,623	40,440	2,464	85.3	6.09
	1924	3,062,150	33,078	2,946	95.8	8.88
Toronto:	1900	208,040	3,602	171	82.1	4.78
	1905	219,851	3,887	191	86.8	4.91
	1910	241,812	5,593	270	111.7	4.83
	1915	475,000	5,548	370	77.8	6.66
	1920	512,810	7,224	557	106.5	7.72
	1924	529,269	5,570	610	111.0	10.95
Ottawa:	1900	59,928	1,262	32	53.4	2.53
	1905	67,716	1,232	39	57.5	3.16
	1910	88,332	1,519	56	63.3	3.66
	1915	96,340	1,662	89	92.3	5.35
	1920	110,710	1,920	100	90.3	5.25
	1924	112,973	1,514	132	116.7	8.72

Hamilton:	1900	52,634	808	43	81.7	5.32
	1905	54,305	963	40	73.6	4.16
	1910	56,155	1,160	59	105.0	5.08
	1915	100,310	1,197	76	75.8	6.35
	1920	114,390	1,656	121	105.7	7.30
	1924	123,936	1,248	149	120.0	11.92
London:	1900	37,983	504	17	44.7	3.37
	1905	40,687	652	24	58.9	3.68
	1910	44,347	768	42	94.5	5.47
	1915	55,860	837	45	80.5	5.37
	1920	57,040	1,031	73	127.9	7.08
	1924	64,190	901	101	157.2	11.22

From these statistics you will notice that not only have the total number of deaths from Cancer in Ontario increased noticeably, but that the rate per 100,000 of population and also the percentage of Cancer to total deaths have also increased in an alarming way. We find that this not only applies to our own Province, but is general throughout Canada and the United States. The American Society for the control of Cancer states: "The official death rate for Cancer has been long increasing; the rate in 1900 being 63.0, and in 1923 was 89.4"; and in the latter year, Cancer was more frequently the cause of death among women than among men; but when allowance is made for Cancer of the breast and the female genital organs, which are often the site of the disease among women, then Cancer is more prevalent among males than among females.

The Influence of *B. Welchii* Toxin on Erythrocytes in Vivo and in Vitro*

GUILFORD B. REED AND J. H. ORR,
Queen's University, Kingston.

A VIRULENT *B. Welchii* culture kept for several days in the ice-box and injected in suitable numbers into rabbits subcutaneously, intramuscularly or intravenously produces an infection which may terminate fatally in from 12 hours to 3 weeks, or may persist for 2 to 5 weeks, and may be followed by apparently complete recovery of the animal. Such infections in rabbits are always followed by an anaemia, the extent of which is roughly proportional to the activity of the infection.

Where the *B. Welchii* infection is very active there is a marked decrease in the number of circulating erythrocytes, an increase in the color index and a profound alteration in the structure of the red-cells characterized by anisocytosis, poikilocytosis, polychromatophilia and nucleated red-cells. Where the infection is less active there may be no decrease in red-cell count, but at the same time a measurable anisocytosis and poikilocytosis.

B. Welchii toxin injected intravenously into rabbits produces rapid destruction of red-blood cells. If the dose of the toxin is large, the destruction is rapid, and may be followed by the death of the animal. If the dose is smaller, the destruction is less rapid, and the anaemia may be transient. In either case, however, the red-cell destruction is accompanied by a profound alteration in the structure of the cells, characterized in the first stages of the toxemia by an increase in microcytes, followed later by an increase in macrocytes, poikilocytes, polychromatophilia and budding-cells.

Similar changes are observed when *B. Welchii* toxin is mixed with defibrinated blood or with washed erythrocytes suspended in physiological salt solutions.

*Abstract of paper read before Canadian Health Congress, May, 1926.

Results of Study of Private Duty Nursing in New York Show Nurses in State Earned only 49 cents per hour during week of February 21 to 28, about even with Charwomen, Servants and Unskilled Workers

RESULTS of a study of private duty nursing in New York just made public show that the average private duty nurse in the state earned \$31.26 between February 21 and 28, one of the peak weeks of the year in illness. The survey, which was sponsored by the New York State Nurses' Association in co-operation with the Committee on Grading of Nursing Schools, 370 Seventh Avenue, New York City, and was participated in by 1,409 nurses, reveals that the average earnings of a nurse during the week studied amounted to only 49 cents per hour, about even with charwomen, servants and unskilled labor.

"These earnings do not mean that the average weekly salary of the private duty nurse is \$31.26," said Miss Janet Geister, R.N., of the Associated Out-Patients' Clinics of New York City, who announced results of the study. "The nurse's regular income drops below this amount because she has to live at her own expense in the intervals between cases, and frequently has to wait five or six weeks for a call in July and August."

Questionnaires were sent by all alumnae associations of nursing schools in the state to their entire membership, and over one-fourth of this number contributed to the study, which marks the first time that the statistical method has been used in an analysis of nursing questions. Dr. May Ayres Burgess, director of study of the Committee on Grading of Nursing Schools, has been the statistician in charge of the project.

A week in February was chosen for the survey, because it represents a peak period of illness, and is one of the busiest months of the year for nurses. In spite of this fact, on account of poor distribution, the average nurse worked only five days out of the seven, and 12 per cent., or 171 of the 1,409 nurses, were idle the entire week. Only 53 per cent., or 742, worked seven days without stopping, and 25 per cent. were employed three days or less.

Of the total number of nurses, only 82 earned more than \$50 in the week, and, of this number, 80 were in New York City or Brooklyn. In many cases, these nurses took care of two patients or more at a time. Fifty-two of the private duty nurses earned \$10 or less, 458 from \$41 to \$50, and 301 from \$31 to \$40.

A paradox exists in the fact that doctors in New York reported a shortage of nurses during the week, but it was apparently because the machinery for getting doctor and nurse together is inadequate rather than that nurses declined calls they received. Eighty per cent., or 1,127 of the nurses did not refuse a single call, 109 declined only one call, and 65 nurses two calls. The members of the profession showed a general willingness to take all types of illness. Thirty-four per cent. of the 1,409 nurses expressed themselves as willing to take any type of case, 33 per cent. registered against contagion, and 20 per cent. against obstetrics.

Possibilities of a heavy exodus from private duty nursing are seen in the survey taken. Of the nurses who answered the questionnaire, 564 state that they intend to leave the private duty field, and admit that the economic question and the 12-hour day play a large part in their decision. The nurses emphasize the fact that when they live far from their patients, the time in transit often stretches the working day to 15 or 16 hours.

Economic and social handicaps do not seem to destroy enthusiasm for private duty nursing in itself, Miss Geister pointed out. The 1,409 nurses said almost with unanimity that they like bedside nursing, even those who state they are about to change to another field. Miss Geister sees the possibility of an alarming shortage of private duty nurses in future if the system is not changed to meet modern conditions.

Other nurses prominent in making the study were Louise R. Sherwood, R.N., Syracuse, president of the New York State Nurses' Association; Nancy E. Cadmus, R.N., Rochester, chairman of the Committee on Professional Ethics of the Association; Mary M. Roberts, R.N., editor of the American Journal of Nursing, and Elizabeth C. Burgess, R.N., associate professor of nursing education, Teachers' College, Columbia University. Dr. William Darrach, dean of the College of Physicians and Surgeons, Columbia University, is chairman of the Committee on Grading of Nursing Schools.

Monthly Jottings of the Sanitary Inspectors' Association of Canada

We had a visit the other day from Mr. L. Robertson, Chief Sanitary Inspector for the City of Vancouver. Mr. Robertson was on his way to England to attend the Royal Sanitary Institute. Your Executive gave him credentials and asked him to convey fraternal greetings from our Association to the gathering.

At the Congress, Mr. Robertson will meet another of our members—Mr. T. Lancaster, Chief Sanitary Inspector for the City of Victoria, B.C.

The far West seems to be quite progressive in the matter of allowing their Health Officials privilege of attending Conventions.

In England, we notice that the programme of the Sanitary Inspectors' Convention contains the following announcement: "The Minister of Health has intimated that he will be prepared to entertain applications from any Sanitary Authority whose accounts are subject to Government audit, for sanction to the payment of the reasonable expenses in connection with the attendance of their Sanitary Inspector at the Conference." We need something like this in Canada.

The programme for our own Convention at Brantford on September 1st, 2nd, and 3rd is nearly completed.

Dr. McCullough, Chief Officer of Health for the Province of Ontario, has kindly consented to attend and address the gathering. Others on the programme are: Dr. Slack, Acting Director, Institute of Public Health, London, Ont.; Dr. Hutton, Medical Officer of Health for the City of Brantford; Dr. Cutcliffe, Inspector of Dairies and Foods, Brantford; Mr. A. Rigby, Chief Food Inspector, Winnipeg.

We expect that the attendance of Ontario men will be large, judging by the letters already received from members expressing their intention of attending.

A very interesting motor trip through the Niagara fruit country and extending as far as Niagara Falls, is being arranged.

Members from the West should not miss the Convention. The journey to Brantford will be long, but those taking it will be amply repaid.

Mr. A. White, Chief Sanitary Inspector for Ontario, and Mr. W. C. Millar, our Vice-President in Ontario, are working hard for the success of the Convention, and Mr. W. Glover of Brantford is lining things up in that city. We are assured of a hearty welcome from the Civic Authorities there.

News Notes

A very active anti-tuberculosis campaign is under way in Nova Scotia. The Tuberculosis Commission of the province states that last year there were six hundred and three deaths from tuberculosis in the province and that their immediate objective is to cut this number in two. In the present campaign the Canadian Tuberculosis Association is contributing \$5,000.00 yearly, the provincial government \$10,000.00, while the public will be asked to subscribe \$25,000.00.

The Social Hygiene Exhibit, which has been an interesting feature in Ontario Health work, has recently been shown under the joint auspices of the Provincial Health Department and the Canadian Social Hygiene Council in Port Arthur, Sault Ste Marie, Fort William, Thessalon, Blind River, Espanola, Sudbury and other points.

A survey completed by the American Social Hygiene Association in Detroit has been recently made public. The report states that vice conditions in that City are the worst in America. The survey was financed by the Rockefeller Foundation.

The Provincial Health Department of Ontario has prepared a minimum standard for the establishment of tourist camps in Ontario, and a number of camps have already received certificates as approved tourist camps. Provincial engineers and district officers are also taking an active interest in the sanitary conditions of summer resorts.

Dr. Gordon Bates, General Secretary of the Canadian Social Hygiene Council, has returned from a six weeks' trip through the Canadian West.

The Provincial Health Department of Ontario is now assisting mines to ascertain the extent to which silicosis exists among underground workers with the idea of making it possible to remove affected miners to less dangerous areas before the condition has made material progress. The mine operators are actively co-operating.



The Provincial Board of Health of Ontario

Communicable Diseases Reported for the Province by the Local
Boards of Health for the Weeks ending June 5th, 12th,
19th, 26th, 1926

COMPARATIVE TABLE.

Diseases	1926		1925	
	Cases	Deaths	Cases	Deaths
Cerebro Spinal Meningitis	5	1	5	2
Chancroid	—	—	1	—
Chicken Pox	454	—	457	1
Diphtheria	188	12	142	12
Encephalitis	—	—	4	4
Gonorrhoea	65	—	132	—
Influenza	—	20	10	7
German Measles	433	—	23	—
Measles	2976	12	1063	2
Mumps	37	—	300	—
Pneumonia	—	159	—	126
Poliomyelitis	2	—	—	—
Scarlet Fever	373	3	326	1
Small Pox	36	—	12	1
Syphilis	72	—	48	—
Tuberculosis	164	77	165	85
Typhoid	33	—	46	3
Whooping Cough	290	6	297	7

The following Municipalities reported cases of Small Pox: Kingston 7, Kingston Tp. 2, Olden Tp. 4, Kitchener 1, Waterloo 2, North Bay 6, Peel Tp. 1, Hamilton 2, Peterboro 6, Richmond Tp. 4, Belleville 1.

JOHN W. S. McCULLOUGH.

Editorials

NEW AFFILIATIONS

The Canadian Medical Association during the last week of June held a most successful annual convention. Convened amid delightful surroundings in beautiful Victoria, B. C., the meeting marked another milepost in the rapid progress which the Association has made during the last few years in the direction of becoming a progressive body with ever finer ideals for public service.

While the proceedings of the Convention included many items of great interest, perhaps the not least important occurrence was the granting of affiliation to the Canadian Social Hygiene Council and the Victorian Order of Nurses. As the Public Health Journal has pointed out on more than one previous occasion, one of the most serious of modern dangers has been the development of the spirit of specialism and the tendency for various activities to progress along individualistic and non-co-operative lines. The matter of achieving health for the community at large is not simple, and will involve in the long run the co-operation of every citizen. The affiliations entered into at the Victoria meeting will unquestionably create a better understanding and much better opportunity for co-operation between the three bodies concerned and constitute decidedly a step in the right direction.

HEALTH AND POLITICS

Once again it would appear we are approaching a general election, and again one is prone to wonder whether the opposing parties will take up the matter of health as a Dominion issue. At the time of the last election, statistics were prepared showing the ravages and cost of preventable diseases in Canada and these were forwarded to all candidates. Many candidates made use of the facts submitted, and probably for the first time measures for the conservation of health were made a matter for serious discussion on the "hustings".

This was but a first step. During the next election campaign a strenuous effort should be made to attract general attention to the importance of the problem of keeping our people healthy; a problem the neglect of which involves the loss of more lives than were lost in

the great war, costs yearly in dollars and cents nearly three-quarters of the amount of the entire Dominion Government yearly expenditure, fills up hospitals and asylums needlessly and creates an additional national problem of poverty and dependency of terrific proportions.

These are problems which no man who thinks can afford to despise.

At this time the Public Health Journal hopes that its readers will begin to make plans to bring the whole matter to the attention of their members or prospective members of Parliament, with a view to ensuring discussions both during the election and later on the floor of the House of Commons.

